At-Tarbawi: Jurnal Pendidikan, Sosial dan Kebudayaan
e-ISSN: 2086-9754/p-ISSN: 2086-9754
Volume 11 Number 1 2024
doi: 10.32505/tarbawi.v11i1.8162

Analysis of Critical Thinking Skills in Fifth Grade Elementary School Students on Fractions

Received: March 2, 2024
Accepted: April 30. 2024
Published: May 27, 2024

Sarah Fazilla[1]; Fauziana[2]; Hasma Novi[3]
IAIN Lhokseumawe[123]
e-mail: sarahfazila@iainlhokseumawe.ac.id

Abstract
Strengthening critical thinking skills in studying mathematics can train students to improve their understanding of the material so they can solve problems well and precisely. The results of the initial study found that there were many students unable to solve mathematics problems well. This research aims to determine the level of students' critical thinking abilities and the role of teachers in improving students' critical thinking abilities. The method used descriptive qualitative data sources namely fifth-grade elementary school students and class teachers, data collection is carried out by interviews and documentation, data analysis uses data reduction, data presentation, and conclusions. The results showed that there was 1 student who was classified as having high critical thinking abilities and 3 students who were in the low category, students in the high category meant that they were able to fulfill the indicators of interpretation, analysis, and evaluation, students who had low critical thinking abilities were unable to interpret problems and were unable to meet critical thinking indicators. It can be concluded that the role of teachers is very important in improving students' critical thinking skills and training students to develop thinking skills by providing appropriate practice questions to students.

Keywords: *Critical Thinking, Elementary, Teacher's Role, Mathematics*

Abstrak
Penguatan kemampuan berpikir kritis dalam mempelajari matematika dapat melatih siswa untuk meningkatkan pemahaman materi sehingga dapat memecahkan masalah dengan baik dan tepat. Hasil kajian awal ditemukan masih banyak siswa tidak mampu menyelesaikan soal matematika dengan baik. Adapun tujuan penelitian ini untuk mengetahui tingkat kemampuan berpikir kritis siswa dan peran guru dalam meningkatkan kemampuan berpikir kritis siswa. Metode yang digunakan deskriptif kualitatif dengan sumber data yaitu siswa kelas V sekolah dasar dan guru kelas, pengumpulan data dilakukan dengan wawancara dan dokumentasi, analisis data menggunakan reduksi data, penyajian data dan kesimpulan. Hasil penelitian menunjukkan bahwa terdapat 1 siswa yang tergolong pada kemampuan berpikir kritis tinggi dan 3 siswa pada kategori rendah, siswa kategori tinggi artinya telah mampu memenuhi

indikator interpretasi, analisis, dan evaluasi, siswa yang kemampuan berpikir kritis rendah tidak mampu dalam menginterpretasikan masalah dan tidak mampu memenuhi indikator berpikir kritis. Dapat disimpulkan bahwa peran guru sangat penting dalam meningkatkan kemampuan berpikir kritis peserta didik dan melatih siswa untuk mengembangkan kemampuan berpikir dengan cara memberikan soal-soal latihan yang tepat kepada peserta didik.

Kata kunci: *Berpikir Kritis, Sekolah Dasar, Peran Guru, Matematika*

Introduction

Mathematics is a fundamental scientific discipline that holds significant importance in both daily life and the advancement of science and technology. Mathematics is widely regarded as the fundamental basis of science, as evidenced by the significant requirement for mathematical skills. Mathematical proficiency encompasses more than just computational skills; it also entails the capacity to engage in logical and critical reasoning while tackling challenges, particularly those encountered in everyday life.

Critical thinking is the cognitive skill that involves reflective thinking and is cantered around determining the foundation for making decisions based on established criteria. It is the process of making logical decisions by considering the evidence at hand, the contextual factors of the situation, and relevant concepts (Ennis, 2011; Facione, 2015). Critical thinking is the cognitive process by which students systematically and specifically analyse problems they encounter. Additionally, they are expected to carefully and thoroughly distinguish between problems, as well as identify and evaluate information to develop problem-solving strategies.

The cognitive capacities of students can be enhanced through engaging in critical thinking activities. This aptitude does not spontaneously manifest in students but necessitates the teacher's involvement in establishing conducive conditions and providing appropriate activities to foster the development of critical thinking abilities (Abdullah, 2016; Syafitri et al., 2021). In addition, Azizah et al (Azizah, Sulianto, & Cintang, 2018) asserted that an individual who possesses critical thinking skills is capable of drawing logical conclusions based on their existing knowledge and effectively utilizing relevant sources of information to address challenges.

Mathematical concepts and critical thinking abilities are mutually beneficial as they enhance each other's understanding and comprehension. Studying mathematics can enhance one's critical thinking skills (Agustina, 2019). The development of students' critical thinking skills is crucial in mathematics education,

particularly in comprehending and solving complex issues that demand logical reasoning, analysis, assessment, and interpretation of ideas. This capacity can help cultivate pupils' active engagement in acquiring and immediately encountering their own experiences. Significant in the process of acquiring knowledge and skills.

Engaging in critical thinking within the realm of education enables students to enhance their comprehension of the subject matter by effectively assessing difficulties. This skill allows them to employ problem-solving techniques and serves as a foundation for making accurate decisions. Currently, the development of students' critical thinking skills in primary schools is not meeting expectations. This is evident in the planning, implementation, and learning processes, as seen by Dadri et al. (Dadri et al., 2019). Moreover, according to the 2018 PISA survey, it was discovered that students in Indonesia have low levels of critical thinking skills when it comes to learning mathematics. The mathematics score for Indonesia was 379, which is significantly lower than the average score of 489 for OECD countries. The score falls significantly below the average score of the 78 countries that participated in the survey study (Marleni et al., 2021). Therefore, it may be inferred that the overall level of pupils' critical thinking skills in addressing mathematical issues is quite poor.

This is further corroborated by preliminary data collected at SD Negeri 1 Blang Mangat, where the researcher conducted observations during the learning process. The researcher received information indicating that out of the 34 participants, only 40% (14 students) were observed in the fifth-grade mathematics test results. The pupils who achieve a score surpassing the Minimum Completeness Criteria (KKM) and demonstrate proficiency in solving mathematical problems. The kids' critical thinking skills at this school are significantly deficient. This phenomenon arises from multiple causes, specifically: variations in students' critical thinking capacities, the rate at which pupils assimilate the teacher's instruction, and the limited efficacy of the teacher's instructional efforts.

The analysis of student's critical thinking abilities in mathematics subjects has been the subject of various studies. These studies have identified several influential factors, including psychological factors such as intellectual development, motivation, and anxiety, as well as physiological factors such as physical condition. Additionally, learning independence and interaction factors have also been identified as significant factors in this context (Jiran Dores et al., n.d.). Another thing was also found that several dominant indicators were appearing in critical thinking skills, including the ability to formulate problems and plan problem-solving strategies, but students were

not yet able to evaluate decisions, think flexibly and originally (Azizah, Sulianto, Cintang, et al., 2018; Ridwan & Nasrulloh, 2022).

The analysis of starting issues in mathematics learning in primary schools provides a basis for conducting a comprehensive analysis of students' critical thinking skills. This study aims to examine the critical thinking abilities of students at SD Negeri 1 Blang Mangat when solving fractional problems and to determine the impact of teachers on enhancing students' critical thinking skills in mathematics education. The research results are expected to serve as a valuable resource for teachers to enhance students' critical thinking skills in mathematics. This can be achieved by familiarizing pupils with obstacles and equipping them with problem-solving abilities. Teachers can achieve this by crafting engaging lessons, particularly in the context of fraction topics for fifth-grade students in elementary school.

Method

This study employs a qualitative methodology, namely the descriptive research design. Moleong defines the qualitative approach as a research method that seeks to comprehensively understand the occurrences experienced by research (Harahap, 2020). The objective of this study is to examine the proficiency of grade 5 elementary school children in critical thinking abilities related to fractions. The participants in this study consisted of 27 students and 1 math's instructor. This study uses interviews and documentation as the means of data collecting.

The interviews involved posing questions to the research participants in order to gather further data on the students' critical thinking skills, which were subsequently assessed. This was done to enhance the robustness of the research findings. The evidence included in this study is a record of student examination outcomes on the topic of fractions. The research employs a set of 5 essay questions of the higher-order thinking skills (HOTS) category as the instrument. Students are provided with the following essay questions:

Essay

1. Pak anton membeli sebidang tanah seluas 1 $\frac{3}{4}$ hektar, kemudian ia membeli lagi 3 $\frac{2}{5}$ hektar jika 3 $\frac{1}{2}$ hektar dibangun untuk perkantoran dan sisanya untuk taman. Hitunglah berapa luas taman!
2. Ibu Edo mempunyai persediaan 2,5 kg gula di rumah, hari ini ibu membeli lagi $\frac{1}{4}$ gula di warung dekat rumah untuk tambahan membuat pesanan kue. Berapa kg jumlah gula keseluruhan ibu?
3. Ayah membeli sebuah melon yang beratnya 3 $\frac{3}{5}$kg, ibu juga membeli semangka yang beratnya $\frac{3}{4}$kg. Berapa berat buah yang dibeli ayah dan ibu seluruhnya?
4. Hawa memiliki lahan tanah seluas 100,000 meter persegi, jika sebanyak 40% lahan ditanami jagung. Berapa meter persegi lahan tanah yang ditanami jagung?
5. Harga sebuah baju di sebuah toko sebelum diskon adalah Rp. 300,000,00 jika sedang diskon 25%. Berapa harga baju setelah diskon?

Fig.1. Essay question on the topic of fractions

The indicators used to assess critical thinking ability include interpretation, analysis, evaluation, and inference. Interpretation refers to the student's ability to identify and articulate relevant aspects of the question. Analysis involves connecting information in the problem to formulate answers or mathematical models. The evaluation assesses the students' accuracy in providing problem solutions. Inference measures the student's ability to draw logical conclusions from the given problems.

The data analysis in this study consists of three main components, namely data reduction, data presentation, and conclusion drawing. According to Neong Muhadjir, data analysis is defined as the systematic effort to search for and organize the records of interview results, documentation, and others to enhance the researcher's understanding of the studied case and provide it as findings for others (Rijali, 2019).

Result and Discussion

1. Result

The capacity for critical thinking entails the aptitude to scrutinize and assess data acquired through observation, experience, logical deduction, and communication to determine the reliability of said information, hence enabling the formulation of logical and accurate conclusions. Mathematics is widely regarded as a topic that has the potential to cultivate critical thinking abilities. Through the acquisition of mathematical knowledge, pupils are anticipated to develop the capacity for logical, analytical, systematic, critical, and creative thinking, alongside the aptitude for collaborative work.

The research methodology employed in this study was conducting interviews with fifth-grade children in order to assess their proficiency in critical thinking when solving mathematical problems. The aforementioned data was further substantiated by the inclusion of documents, specifically the responses to the examination inquiries, specifically five essay questions pertaining to fractions, which were completed by the students. The subjects consisted of four pupils. The research was conducted by individuals identified as MD, NW, KAM, and NF, while the class teacher was identified as M.

Based on the findings derived from interviews conducted with many representatives of fifth-grade students, it was seen that students had a positive disposition towards the subject of mathematics. However, it was noted that students encountered challenges in accurately addressing fraction-related problems. During the process of student problem-solving, it was observed that students exhibited a preference for direct problem-solving without engaging in analysis, primarily due to challenges encountered in comprehending the mathematical issues presented by the instructor. A significant challenge in addressing story problems involving fractions is the lack of comprehension among the majority of students. This pertains to the deficiency in kids' critical thinking abilities.

This is corroborated by the findings of a study that utilized assessments of students' aptitude for critical thinking in responding to fraction story inquiries, as well as interviews conducted with fifth-grade mathematics educators, which indicate that kids' critical thinking skills remain comparatively deficient. The analysis of students' responses to questions assessing their critical thinking abilities in fractions reveals that out of the 27 students, 9, or 33.33% demonstrated critical thinking skills, while 13 students, or 48.14% could not think critically.

After conducting interviews with multiple class V students and analysing their daily mathematics scores, the researcher devised a set of 5 essay questions to assess the student's critical thinking abilities about fractions. As a consequence, the researcher collected 4 samples for the interviews. The samples that have been chosen exhibit initials in the high category, denoted MD, in the medium category, denoted NW and KAM, and in the low category, denoted NF.

Based on the findings of the conducted research, it was observed that students' critical thinking abilities remained subpar. This was evident in the presence of students who encountered challenges in effectively responding to and solving mathematical inquiries, which can be attributed to their limited comprehension of mathematics education. Students often struggle to engage in critical thinking when solving mathematical problems, particularly those related to fractions.

This is primarily due to their tendency to passively absorb the material being taught, without the motivation to delve deeper into the subject matter and a lack of comprehensive comprehension. Mrs. M's statement regarding students' critical thinking skills in relation to story-shaped questions provides evidence for this claim. The majority of students employ direct approaches when responding to questions and do not utilize mathematical models for problem-solving. Consequently, when

students are tasked with analysing a problem, they often struggle to comprehend and experience confusion. In addition, a series of examinations were undertaken by researchers to assess the critical thinking skills of fifth-grade pupils at SD Negeri 1 Blang Mangat. The data utilized in this study comprises the outcomes of written examinations administered by the researchers themselves.

The findings of the critical thinking ability assessment conducted on fifth-grade students at SD Negeri 1 Blang Mangat indicate that students engage in a systematic approach while addressing mathematical issues. This approach involves articulating the problem at hand and documenting their comprehension of the problem through written expression. Based on the analysis of the five provided questions, it is evident that the responses provided by the MD students were accurate, as they accurately and comprehensively addressed the information presented in the questions. It can be inferred that the interpretation indications of the MD students' critical thinking skills have been met. MD analysis has successfully identified linkages between statements, questions, and concepts provided in the questions, based on indicators.

During the evaluation phase, MD Based on the exam results, it can be inferred that MD students demonstrate proficiency in employing suitable and comprehensive solutions when solving questions, hence indicating the successful attainment of the assessment indicators for MD students. The inference indicator involves pupils establishing connections between existing data and material concepts in order to draw conclusions about a given topic. Based on the findings of the written examination, it may be inferred that MD have a comprehensive understanding of the problem, enabling them to accurately deduce the outcomes of the solution.

The test results collected from KAM students indicated that KAM's response to question number 1 satisfied the criteria for interpretation. Specifically, the answer provided accurately conveyed both the known information and the requested information. However, KAM made an error in accurately stating the known information. The analytical indication in response number 1 demonstrated the ability of KAM to establish connections among statements, questions, and concepts presented in the question. However, a minor inaccuracy was observed in the formulation of the calculation operations towards the conclusion. During the evaluation phase, KAM assessed his cognitive processes in comprehending the problem by employing an appropriate problem-solving technique and obtaining an accurate solution. KAM students can establish connections between existing facts and

material concepts to conclude a situation. In general, it can be asserted that the critical thinking abilities of KAM students remain at a low level.

Moreover, the findings of the study conducted on NF students indicated that the responses provided were accurate just for questions 1 and 3, as they accurately and comprehensively addressed the information provided and the questions posed. The interpretation indications of NF pupils have successfully demonstrated their critical thinking skills. The utilization of an appropriate mathematical model is demonstrated in the NF analysis indicator, as it enables the identification of relationships among statements, questions, and concepts presented inside the questions. During the evaluation phase, NF has employed suitable and comprehensive methodologies to address the questions at hand. NF pupils have successfully accomplished this. Moreover, based on the inference indicators derived from the written test results, it can be inferred that NF possesses a comprehensive understanding of the problem, enabling him to accurately deduce the findings from the solution. In general, it can be asserted that the critical thinking skills of students at NF remain rather deficient.

The test results for NW pupils revealed that their answers were accurate only for numbers 1, 2, and 3. Based on the responses to questions 1, 2, and 3, it was determined that NW accurately and comprehensively documented the information and inquiries posed in the questions. By accurately and comprehensively articulating the information and inquiries regarding the issues, it may be inferred that the critical thinking abilities of the NW students' interpretation indicators have been met, as they are capable of comprehending the questions accurately. NW analysis has successfully identified correlations between statements, questions, and concepts provided in the questions, serving as indicators. Based on the test results, it can be inferred that NW students are capable of employing suitable and comprehensive solutions to solve questions, as shown by the evaluation indicators. Moreover, with regards to the inference indicator, it can be inferred that NW possesses a comprehensive understanding of the problem, enabling them to accurately deduce the outcomes of the solution. Consequently, the inference indicator of the NW student has been met. Based on the available evidence, it can be inferred that the critical thinking abilities of NW students fall within the moderate range.

Following the completion of interviews and the administration of test questions to a sample of five students, the researchers assessed their proficiency in mathematical problem-solving and identified challenges they encountered while

responding to fraction-related inquiries posed by the instructor. Additionally, an interview was done with Mrs. M, the fifth-grade mathematics teacher, to ascertain the instructor's contribution to enhancing students' critical thinking abilities, hence fostering high-level cognitive skills.

Based on the interview findings, it was determined that variations in students' personalities necessitate a teacher's ability to instruct with greater effectiveness and avoid creating a monotonous classroom environment during the learning process. This is crucial as it can hinder students with limited interpretation skills from comprehending the material presented by the teacher. Regarding the incorporation of mathematical concepts into daily life, Mrs. M stated that children have a preference for learning that is relevant to their everyday experiences. However, to facilitate comprehension, the instructor must incorporate many components of fractions into the learning process. The significance of an instructor's elucidation.

About the elements involved in formulating questions for students, Mrs. M asserted that she had furnished comprehensive elements for question creation. These elements encompassed the act of documenting the existing knowledge about the question and the specific subject matter being inquired about, thereby ensuring that students were not perplexed or erroneous in their responses. The teacher engages in this activity to facilitate the development of pupils' critical thinking abilities. Nevertheless, there are still certain kids who are unable to respond to the provided questions. The responsibility of a teacher is to educate and train students to enhance their cognitive capacities.

To facilitate students' comprehension, it was determined that Mrs. M recognized the inseparability of mathematics instruction from real-life difficulties, such as fractions. Teachers must possess the ability to establish connections between mathematics and the everyday difficulties that students confront, enabling them to effectively solve these challenges. To tackle these problems, students must possess critical thinking abilities to comprehend the supplied issues and arrive at the correct solution. Word problems are a type of question that can enhance critical thinking skills by presenting difficulties that demand advanced cognitive abilities to analysed them using mathematical terminology.

Moreover, with regard to Mrs. M's proficiency in statement analysis, it has been observed that students possessing strong critical thinking abilities are adept at accurately solving fraction questions, thereby yielding the correct conclusion or answer. Conversely, students with limited critical thinking skills encounter challenges

in solving such questions. and some individuals may even struggle to effectively solve the issues. The responses provided by pupils will subsequently impact the evaluation administered. According to Mrs. M's statement on assessment, the evaluation process conducted after the lesson was based on the student's proficiency in solving the mathematics questions provided. It is worth noting that the questions were not exclusively presented in mathematical language, but occasionally took the form of narrative questions that were easily comprehensible to children.

In addition, the interview findings revealed that a significant number of fifth-grade students struggled to comprehend the presented material, necessitating the instructor to reiterate the explanation multiple times before the pupils grasped the learning material. Several factors contribute to the inability of fifth-grade students to conclude the studied learning outcomes. One of these factors is their lack of proficiency in interpretation, analysis, evaluation, and inference in learning. Additionally, students' weak critical thinking skills in mathematics hinder their ability to effectively conclude.

Based on the findings derived from the conducted interviews, it is evident that the motivation and role assumed by a teacher in facilitating student learning both before and following instruction hold significant importance. The process of students' critical thinking abilities in mathematics learning, particularly concerning fraction material, is influenced by the interaction between teachers and students, which is crucial for achieving learning objectives.

2. Discussion

The cognitive process of critical thinking in the context of mathematics education involves the active engagement of the mind to acquire mathematical information. The integration of critical thinking skills in mathematics, alongside prior knowledge, mathematical reasoning capabilities, and cognitive techniques, enables individuals to engage in the process of generalization, proof, and reflective evaluation of mathematical scenarios (Kurniawati & Ekayanti, 2020). The description pertains to the assessment of students' critical thinking skills, specifically their ability to solve fraction-related questions provided by the teacher. The primary objective of this study is to assess the critical thinking skills of fifth-grade students in the subject of fractions at SD Negeri 1 Blang Mangat. This assessment will be conducted by examining their ability to solve questions based on the indicators outlined in the

research. These indicators, as defined by Facione, encompass four distinct categories: interpretation, analysis, evaluation, and inference.

During the initial phase, the researcher conducted observations during the ongoing learning process. Upon witnessing the implementation of the learning process, the researcher gained increased assurance in doing study at the primary school. This study involved the examination of student's critical thinking abilities through the administration of essay questions in the form of narratives, accompanied by an elucidation of the problem-solving procedures. Subsequently, interviews were held with multiple participants who were selected from the fifth-grade class. In addition, the researchers conducted interviews with mathematics teachers at the fifth-grade level to gather more information. The critical thinking skills of fifth-grade students at SD Negeri 1 Blang Mangat are generally regarded as satisfactory. However, in practice, the student's critical thinking abilities about fraction material remain limited, both in terms of comprehension and problem-solving. This aligns with Zafri's viewpoint (Dores et al., 2020) This implies that there exist multiple primary factors that exert an indirect influence on critical thinking capabilities, including the physical well-being of students, their degree of motivation, anxiety, and intellectual growth.

The findings of the study done by Sa'diyah and Dwikurnaningsih align with this assertion (Dari & Ahmad, 2020) The inadequate critical thinking abilities of students can be attributed to the selection of an unsuitable learning model, resulting in passive learning activities that negatively affect their critical thinking skills. This phenomenon is evident in the students' limited capacity to express their viewpoints, particularly during the problem-solving phase, and their incapacity to offer suitable solutions to the challenges presented by the instructor.

The analysis of the student answer sheets reveals that the average score for each measure of students' critical thinking ability is now subpar. One of the factors contributing to this phenomenon is the inquiries posed by the instructor pertaining to C1 (recollection), C2 (comprehension), and C3 (application). When students encounter questions categorized as C4-C6 in Bloom's taxonomy, they perceive them as challenging and incapable of effectively solving the problem.

The findings of the analysis indicate that several students encounter challenges in problem-solving, resulting in an inability to meet each indication and demonstrate proficiency in all critical thinking ability indicators. It is consistent with the findings of a study undertaken by Nur Hidayah, M Arief Budiman, and Fajar

Cahyadi (Hidayah et al., 2020) The challenges faced by pupils in solving mathematical issues, particularly those related to fractions, include difficulties in comprehending the problem, formulating a plan, executing the solution, and verifying the solutions or drawing conclusions. Given the students' limited capacity for critical thinking in mathematics education, the instructor plays a crucial role in enhancing students' cognitive capacities.

The primary responsibility of the teacher is to offer a range of innovative approaches to facilitate learning, with the ultimate goal of fostering the development of all students' cognitive, emotional, and psychomotor capacities. The instructor also serves as a facilitator, responsible for enlivening the classroom environment to encourage student engagement in all learning activities. An effective learning process is anticipated to yield proficient and competent pupils who are poised to effect societal transformation.

The teacher's function at SD Negeri 1 Blang Mangat is regarded as commendable and has successfully met the standards for a proficient educator at the school. The teacher plays a crucial role in every class, particularly in mathematics education, as they serve as a role model for learners in effectively delivering the information. The everyday habituation process implemented by educators exerts a significant impact on various dimensions of children's development, including their critical thinking capacities.

This opinion aligns with Rusyan, Winarni, and Hermawan (Prijanto & De Kock, 2021) Specifically, the teacher plays a crucial role in establishing a dynamic and significant classroom environment. This is contingent upon the teacher's approach to managing the class. One fundamental premise of classroom management is to actively engage students in ongoing learning activities. The efficacy of an educator in facilitating the educational process can be observed by the attainment of educational goals. One notable outcome of learning objectives is the ability of pupils to absorb and grasp the content delivered by the instructor.

Meanwhile, the primary objective is to assist students who struggle to comprehend the course material. To do this, the teacher, acting as a facilitator, motivates students to actively engage in the continuous learning process, enabling them to effectively address these challenges for their own future. During the process of teaching and learning, educators encounter challenges pertaining to their facilitation of student learning. Hence, it is imperative for educators to exert effort in facilitating the transmission of information, as students who are receptive to

information are more likely to acquire knowledge with enthusiasm and motivation. Consequently, this will foster student engagement in the learning process, thereby enhancing their critical thinking abilities.

In general, according to the researcher's analysis, there is a need to enhance the role of instructors in enhancing students' critical thinking abilities, particularly at SD Negeri 1 Blang Mangat, as there are still kids who exhibit poor levels of critical thinking skills. In addition, it is necessary to enhance the engagement between educators and learners throughout classroom instruction. The teacher plays a crucial role in effectively expressing and facilitating the transfer of knowledge to enhance students' comprehension of mathematical concepts, particularly fractions. Enhancing the quality of education is expected to enhance students' ability to think critically, particularly in the context of problem-solving in mathematics, namely fractions and other related topics.

Conclusion

Critical thinking talents are categorized into three levels: high, medium, and low. Students who can fulfill four critical thinking indicators are classified as having high critical thinking abilities; students who can only fulfill three indicators are classified as having moderate critical thinking abilities; and students who can only fulfill one indicator are classified as having low critical thinking skills. Of the 27 answer sheets for class V pupils at SD Negeri 1 Blang Mangat, 9 were in the high critical thinking ability category, 13 in the moderate critical thinking ability category, and 5 in the low critical thinking ability category.

References

Afsari, Sisca, Islamiani Safitri, Siti Khadijah Harahap, and Lia Sahena Munthe. "Systematic literature review: Efektivitas pendekatan pendidikan matematika realistik pada pembelajaran matematika." *Indonesian Journal of Intellectual Publication* 1, no. 3 (2021): 189–97.

Agustina, Indah. "Pentingnya berpikir kritis dalam pembelajaran matematika di era revolusi industri 4.0." *Jurnal Pendidikan Indonesia* 8 (2019): 1–9.

Alfansyur, Andarusni, and Mariyani Mariyani. Seni mengelola data: penerapan triangulasi teknik, sumber dan waktu pada penelitian pendidikan sosial. *Historis: Jurnal Kajian, Penelitian Dan Pengembangan Pendidikan Sejarah* 5, no. 2 (2020): 146–50.

Amaliyah, Aam, Pujianti Pujianti, and Nur fauziah Fadhillahwati. Analisis

keterampilan berfikir kritis siswa sekolah dasar pada pembelajaran matematika kurikulum 2013. *Journal Scientific of Mandalika (JSM)* 3, no. 5 (2022): 362–66.

Azizah, Mira, Joko Sulianto, and Nyai Cintang. Analisis keterampilan berpikir kritis siswa sekolah dasar pada pembelajaran matematika kurikulum 2013." *Jurnal Penelitian Pendidikan* 35, no. 1 (2018): 61–70.

———. Analysis of critical thinking skills of elementary school students in learning mathematics curriculum 2013." *Jurnal Penelitian Pendidikan* 35, no. 1 (2018): 61–70.

Cahyaningsih, Ujiati, and Dede Salim Nahdi. "Pengembangan bahan ajar matematika sd berbasis model pembelajaran realistic mathematics education yang berorientasi kemampuan berpikir kritis. *Jurnal Educatio FKIP UNMA* 6, no. 2 (2020): 598–604.

Dadri, P C W, N Dantes, and I M Gunamantha. Pengaruh model pembelajaran kooperatif tipe nht terhadap kemampuan berpikir kritis dan hasil belajar matematika siswa kelas V SD Gugus III Mengwi. *PENDASI: Jurnal Pendidikan Dasar Indonesia* 3, no. 2 (2019): 84–93.

Dari, Fadilah Wulan, and Syafri Ahmad. Model discovery learning sebagai upaya meningkatkan kemampuan berpikir kritis siswa SD. *Jurnal Pendidikan Tambusai* 4, no. 2 (2020): 1469–79.

Dores, S Pd, Olenggius Jiran, Dwi Cahyadi Wibowo, and Susi Susanti. Analisis kemampuan berpikir kritis siswa pada mata pelajaran matematika. *J-PiMat* 2, no. 2 (2020): 242–54.

Edi, Sarwo, and Raden Rosnawati. Kemampuan berpikir kritis siswa dalam pembelajaran matematika model discovery learning. *JNPM (Jurnal Nasional Pendidikan Matematika)* 5, no. 2 (2021): 234–46.

Fahmi, Fahreza Ali, and Hera Heru Sri Suryanti. Pengaruh layanan informasi dengan media film terhadap kewaspadaan siswa tentang pelecehan seksual di kelas VIII-C SMP N 1 Matesih tahun pelajaran 2018/2019." *Medikons: Jurnal Prodi Bimbingan Dan Konseling Unisri Surakarta* 5, no. 2 (2019).

Firdaus, Naufal, and Ratna Rustina. Analisis kemampuan berpikir kritis matematis ditinjau dari gaya belajar. In *Prosiding Seminar Nasional & Call For Papers*, 2019.

Harahap, Nursapia. Penelitian Kualitatif. 2020

Hidayah, Nur, M Arief Budiman, and Fajar Cahyadi. Analisis kesulitan siswa kelas V dalam memecahkan masalah matematika pada materi operasi hitung pecahan. *Thinking Skills and Creativity Journal* 3, No. 1 (2020): 46–51.

Juliyantika, Tiwi, and Hamdan Husein Batubara. Tren penelitian keterampilan

berpikir kritis pada jurnal pendidikan dasar di Indonesia. *Jurnal Basicedu* 6, no. 3 (2022): 4731–44.

Kurniawati, Dewi, and Arta Ekayanti. Pentingnya berpikir kritis dalam pembelajaran matematika. *Jurnal Penelitian Tindakan Kelas Dan Pengembangan Pembelajaran* 3, no. 2 (2020): 107–14.

Manurung, Agnes, Muktar B Panjaitan, and Emelda Thesalonika. Analisis kemampuan berpikir kritis siswa pada hasil belajar dalam materi bilangan bulat di kelas V UPT SD Negeri 02 Lima Puluh." *Jurnal Pendidikan Dan Konseling (JPDK)* 4, no. 5 (2022): 6392–6401.

Marleni, Alma Julianda, Drajat Friansah, and Tio Gusti Satria. Pengembangan media pembelajaran math bingo pada mata pelajaran matematika materi pecahan kelas IV SD. *AULADUNA: Jurnal Pendidikan Dasar Islam* 8, no. 2 (2021): 160. https://doi.org/10.24252/auladuna.v8i2a4.2021.

Mekarisce, Arnild Augina. Teknik pemeriksaan keabsahan data pada penelitian kualitatif di bidang kesehatan masyarakat. *Jurnal Ilmiah Kesehatan Masyarakat: Media Komunikasi Komunitas Kesehatan Masyarakat* 12, no. 3 (2020): 145–51.

Prijanto, Jossapat Hendra, and Firelia De Kock. Peran guru dalam upaya meningkatkan keaktifan siswa dengan menerapkan metode tanya jawab pada pembelajaran online. *Scholaria: Jurnal Pendidikan Dan Kebudayaan* 11, no. 3 (2021): 238–51.

Putri, Anike. Profil kemampuan berpikir kritis matematis siswa SMP kelas VIII materi bangun ruang sisi datar. *Jurnal Pendidikan Tambusai* 2, no. 2 (2018): 793–801.

Putri, Firsta Aditya, Dhi Bramasta, and Santhy Hawanti. Studi literatur tentang peningkatan kemampuan berpikir kritis siswa dalam pembelajaran menggunakan model pembelajaran *the power of two* di SD. *Jurnal Educatio Fkip Unma* 6, no. 2 (2020): 605–10.

Ridwan, Taufik, and Iman Nasrulloh. Analisis kemampuan berpikir kreatif dan kritis siswa Sekolah Dasar. 2022.

Rijali, Ahmad. Analisis data kualitatif. *Alhadharah: Jurnal Ilmu Dakwah* 17, no. 33 (2019): 81–95.

Rizza, Hamdan Muh. Analisis kemampuan berpikir kritis siswa dalam mengerjakan soal matematika. *Prosiding Konferensi Ilmiah Dasar* 2 (2020): 294–300.

Rosmaini, Rosmaini. Analisis faktor-faktor yang mempengaruhi kemampuan berpikir kritis dalam pembelajaran matematika. *Edukatif: Jurnal Ilmu Pendidikan* 5, no. 2 (2023): 869–79.

Sa'diyah, Awalus, and Yari Dwikurnaningsih. Peningkatan keterampilan berpikir kritis melalui model discovery learning. *Edukasi: Jurnal*

Penelitian Dan Artikel Pendidikan 11, no. 1 (2019): 55–66.

Saputra, Hardika. Kemampuan berfikir kritis matematis. *Perpustakaan IAI Agus Salim* 2 (2020): 1–7.

Saputra, Maskhur Dwi, Soetarno Joyoatmojo, Dewi Kusuma Wardani, and Khresna Bayu Sangka. Developing critical-thinking skills through the collaboration of jigsaw model with problem-based learning model. *International Journal of Instruction* 12, no. 1 (2019): 1077–94.

Saraswati, Putu Manik Sugiari, and Gusti Ngurah Sastra Agustika. Kemampuan berpikir tingkat tinggi dalam menyelesaikan soal hots ata pelajaran matematika. *Jurnal Ilmiah Sekolah Dasar* 4, no. 2 (2020): 257–69.

Shamboul, Howaida Awad Elballal. The importance of critical thinking on teaching learning process. *Open Journal of Social Sciences* 10, no. 1 (2022): 29–35.

Siswandi, Erlan. Analisis kesalahan mahasiswa pada mata kuliah kalkulus materi persamaan diferensial berdasarkan metode Newman ditinjau dari kemampuan awal matematika. *SCIENCE: Jurnal Inovasi Pendidikan Matematika Dan IPA* 1, no. 1 (2021): 76–85.

Siswono, Tatag Yuli Eko. Berpikir kritis dan berpikir kreatif sebagai fokus pembelajaran matematika. In *Seminar Nasional Matematika Dan Pendidikan Matematika*, 5:11–26, 2016.

Suatini, Ni Kadek Ayu. Langkah-langkah mengembangkan kemampuan berpikir kritis pada siswa. *Kamaya: Jurnal Ilmu Agama* 2, no. 1 (2019): 41–50.

Sulviah, Sulviah, Kamaruddin Sellang, and Andi Uceng. Upaya peningkatan kemampuan aparatur terhadap pelaksanaan tugas administrasi pemerintah di kantor Desa Bila Riase Kecamatan Pitu Riase Kabupaten Sidenreng Rappang." *JIA: Jurnal Ilmiah Administrasi* 10, no. 2 (2022): 68–73.

Sutamrin, Sutamrin, and Khadijah Khadijah. Analisis kemampuan berpikir kritis dalam project based learning aljabar elementer. *EQUALS: Jurnal Ilmiah Pendidikan Matematika* 4, no. 1 (2021): 28–41.

Trimahesri, Inandhi, and Agustina Tyas Asri Hardini. Peningkatan kemampuan berpikir kritis dan hasil belajar pada mata pelajaran matematika menggunakan model realistic mathematics. *Thinking Skills and Creativity Journal* 2, no. 2 (2019): 111–20.

Unaenah, Een, and Muhammad Syarif Sumantri. Analisis pemahaman konsep matematis siswa kelas 5 sekolah dasar pada materi pecahan. *Jurnal Basicedu* 3, no. 1 (2019): 106–11.

Wartini, Ni Wayan. Implementasi model pembelajaran inkuiri terbimbing untuk meningkatkan motivasi belajar dan kemampuan berpikir kritis.

Journal of Education Action Research 5, no. 1 (2021): 126–32.

Yulianti, Eka, and Indra Gunawan. Model pembelajaran problem based learning (PBL): efeknya terhadap pemahaman konsep dan berpikir kritis. *Indonesian Journal of Science and Mathematics Education* 2, no. 3 (2019): 399–408.

Yunita, Herina, Sri Martini Meilanie, and Fahrurrozi Fahrurrozi. Meningkatkan kemampuan berpikir kritis melalui pendekatan saintifik. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini* 3, no. 2 (2019): 425–32.